

CIS 716.5 Homework 3

1. Consider the following interaction scenarios:

(a)

		i	
		defect	cooperate
j	defect	3	4
	cooperate	1	2
		3	4

(b)

		i	
		defect	cooperate
j	defect	-1	2
	cooperate	1	-1
		-1	-1
		2	-1

(c)

		i	
		defect	cooperate
j	defect	3	1
	cooperate	4	2
		3	1
		2	4

For each scenario in turn (the marks shown are those for the answer for *each* scenario, so overall the question is worth 75 points):

- Informally analyse the scenario to determine what each agent should do.
(5 points)
- Classify the preferences that agents have with respect to outcomes.
(5 points)
- Determine which strategies are strongly or weakly dominated (and explain why)
(5 points)
- Use the idea of deleting strongly dominated strategies to simplify the scenario where appropriate.

(5 points)

- Identify any Nash equilibria.

(5 points)

2. The four commonest types of auction are English, Dutch, First Price Sealed Bid and Vickrey auction. For each type of auction say:

- What the starting price of the auction is (what the price that bidding starts at is).
- What information a bidder in the auction can obtain about how much other bidders value the good being auctioned.
- What the best strategy for a bidder is in that auction.

You must justify all of your answers, stating any assumptions that you make.

(25 points)